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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/764,613	01/17/2001	James Russell Godwin	5577-218	7860
20792	7590	07/02/2004	EXAMINER	
MYERS BIGEL SIBLEY & SAJOVEC PO BOX 37428 RALEIGH, NC 27627			COULTER, KENNETH R	
			ART UNIT	PAPER NUMBER
			2141	

DATE MAILED: 07/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/764,613	GODWIN ET AL.	
	Examiner	Art Unit	
	Kenneth R Coulter	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/17/01; 9/20/01</u> | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Claim Objections*

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 22, 23, and 24 have been renumbered 21, 22, and 23, respectively.

### *Double Patenting*

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1 – 23 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 - 33 of copending Application No. 09/764,616. Although the conflicting claims are not identical,

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they are not patentably distinct from each other because both the present Application and Application No. 09/764,616 disclose:

1. A method of providing Internet Protocol Security (IPSec) to a plurality of target hosts in a cluster of data processing systems which communicate with a network through a routing communication protocol stack utilizing a dynamically routable Virtual Internet Protocol Address (DVIPA), the method comprising: negotiating security associations (SAs) associated with the DVIPA utilizing an Internet Key Exchange (IKE) component associated with the routing communication protocol stack; and distributing information about the negotiated SAs to the target hosts to allow the target hosts to perform IPSec processing of communications from the network utilizing the negotiated SAs.
2. A method according to claim 1, wherein the routing communication protocol stack further carries out the steps of: receiving a communication from the network; determining if the communication is an IPSec communication to the DVIPA; routing the received communication to one of the target hosts.
3. A method according to claim 2, wherein the step of determining if the communication is an IPSec communication comprises the steps of: evaluating a destination address in the IP header of a received datagram of the communication; and determining if the destination address is a dynamic VIPA.
4. A method according to claim 3, wherein the step of evaluation a destination address is preceded by the steps of: determining if the destination address is encrypted; and decrypting the received communication utilizing an SA associated with the IPSec communication to decrypt a Transmission Control Protocol (TCP) header of the

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datagram.

5. A method according to claim 4, further comprising the step of determining a location of the TCP header in the received communication based on whether the IPSec SA is in transport mode or tunnel mode.

6. A method according to claim 3 wherein the routing communication protocol stack further carries out the step of bypassing inbound filtering if the communication is an IPSec communication to the DVIPA.

7. A method according to claim 3, wherein the routing communication protocol stack further carries out the steps of: inbound filtering the communication if the communication is an IPSec communication; and encapsulating the filtered inbound communication in a generic routing format; and wherein the step of routing comprises routing the encapsulated communication to the one of the target hosts; and wherein a communication protocol stack of the one of the target hosts carries out the steps of: bypassing inbound filtering of the routed encapsulated communication; and decapsulating the routed encapsulated communication.

8. A method according to claim 7, wherein the step of inbound filtering further comprises the steps of: performing a tunnel check on the received communication; and rejecting the received communication so as to not route the received communication to the one of the target hosts based on the results of the tunnel check.

9. A method according to claim 2, wherein the routing communication protocol stack further carries out the steps of: performing a replay sequence number check on the received communication; and rejecting the communication so as to not route the

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received communication to the one of the target hosts based on the results of the replay sequence number check.

10. A method according to claim 2, wherein the step of routing comprises the steps of: selecting a target host from the plurality of target hosts based on entries in a distributed connection table associated with the DVIPA; and sending the received communication to the selected target host over a trusted link.

11. A method according to claim 1, wherein the information about the negotiated SAs comprises the SAs and wherein the step of distributing further comprises the step of storing the distributed SAs in a shadow cache of communication protocol stacks of the target hosts.

12. A method according to claim 11, wherein the target hosts further carry out the step of IPSec processing communications to the DVIPA utilizing the SAs in the shadow cache.

13. A method according to claim 12, further comprising the step of providing an inbound lifecount from the communication protocol stacks of the target hosts to the routing communication protocol stack.

14. A method according to claim 13, wherein the IKE refreshes the SAs associated with the DVIPA based on the inbound lifecount provided by the communication protocol stacks of the target hosts.

15. A method according to claim 13, wherein the step of providing an inbound lifecount comprises the step of sending a cross coupling facility (XCF) message identifying the inbound lifecount to the routing communication protocol stack.

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16. A method according to claim 15, wherein the step of sending an XCF message identifying the inbound lifesize count comprises the step of periodically sending a XCF message identifying the inbound lifesize count for a plurality of IPSec processed communications.

17. A method according to claim 16, wherein the plurality of IPSec processed communications comprises a percentage of a total lifesize count associated with an SA.

18. A method according to claim 17, further comprising the step of dynamically establishing the percentage of the total lifesize count based on whether the IKE has previously refreshed the SA prior to expiration of a lifesize count threshold associated with the SA.

19. A system for providing Internet Protocol Security (IPSec) to a plurality of target hosts in a cluster of data processing systems, comprising: a shadow SA cache at each of the target hosts which is configured to store security association (SA) information associated with a dynamically routable Virtual Internet Protocol Address (DVIPA); and a communication protocol stack at each of the target hosts configured to IPSec process datagrams associated with the DVIPA utilizing the SA information in the shadow SA cache.

20. A system according to claim 19, further comprising: a routing communication protocol stack configured to route communications to the plurality of target hosts from a network utilizing the distributed Virtual Internet Protocol Address (DVIPA); an Internet Key Exchange module (IKE) associated with the routing communication protocol stack; and wherein the routing communication protocol stack is further configured to distribute



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security association (SA) information for IPsec SAs negotiated by the IKE and associated with the DVIPA to the communication protocol stacks at each of the target hosts; and wherein the communication protocol stacks at each of the target hosts are configured to store the IPsec SA information in the shadow SA cache.

21. A system according to claim 20, wherein the routing communication protocol stack is further configured to decrypt the Transmission Control Protocol (TCP) header of received IPsec encapsulated datagrams to determine if the received datagram is associated with a DVIPA.

22. A system according to claim 20, wherein the routing communication protocol stack is further configured to store an IPsec sequence number in a coupling facility.

23. A system according to claim 20, wherein the communication protocol stacks at each of the target hosts are further configured to update a lifetime count of the IKE associated with IPsec processed datagrams.

4. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being disclosed by Dixon et al. (U.S. Pat. No. 6,697,857) (Centralized Deployment of IPsec Policy Information).

6.1 Regarding claim 1, Dixon discloses a method of providing Internet Protocol Security (IPsec) to a plurality of target hosts in a cluster of data processing systems which communicate with a network through a routing communication protocol stack utilizing a dynamically routable Virtual Internet Protocol Address (DVIPA), the method comprising:

negotiating security associations (SAs) associated with the DVIPA utilizing an Internet Key Exchange (IKE) component associated with the routing communication protocol stack (col. 6, lines 8 – 11 “IKE 111 is invoked to negotiate an appropriate security association”); and

distributing information about the negotiated SAs to the target hosts to allow the target hosts to perform IPsec processing of communications from the network utilizing the negotiated SAs (Abstract; Fig. 2; col. 5, lines 42 – 67; col. 6, lines 1 - 17).

6.2 Per claim 2, Dixon teaches a method according to claim 1, wherein the routing communication protocol stack further carries out the steps of:

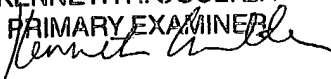
receiving a communication from the network (col. 3, lines 48 - 67);

determining if the communication is an IPSec communication to the DVIPA;  
routing the received communication to one of the target hosts (Abstract; Fig. 2; col. 5,  
lines 42 – 67; col. 6, lines 1 - 17).

7. Any inquiry concerning this communication or earlier communications from the  
examiner should be directed to Kenneth R Coulter whose telephone number is 703 305-  
8447. The examiner can normally be reached on 5 4 9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's  
supervisor, Rupal Dharia can be reached on 703 305-4003. The fax phone number for  
the organization where this application or proceeding is assigned is 703-872-9306.

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KENNETH R. COULTER  
PRIMARY EXAMINER  


krc